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RESULTS OF WEED CONTROL STUDIES IN VEGETABLE CROPS—1989

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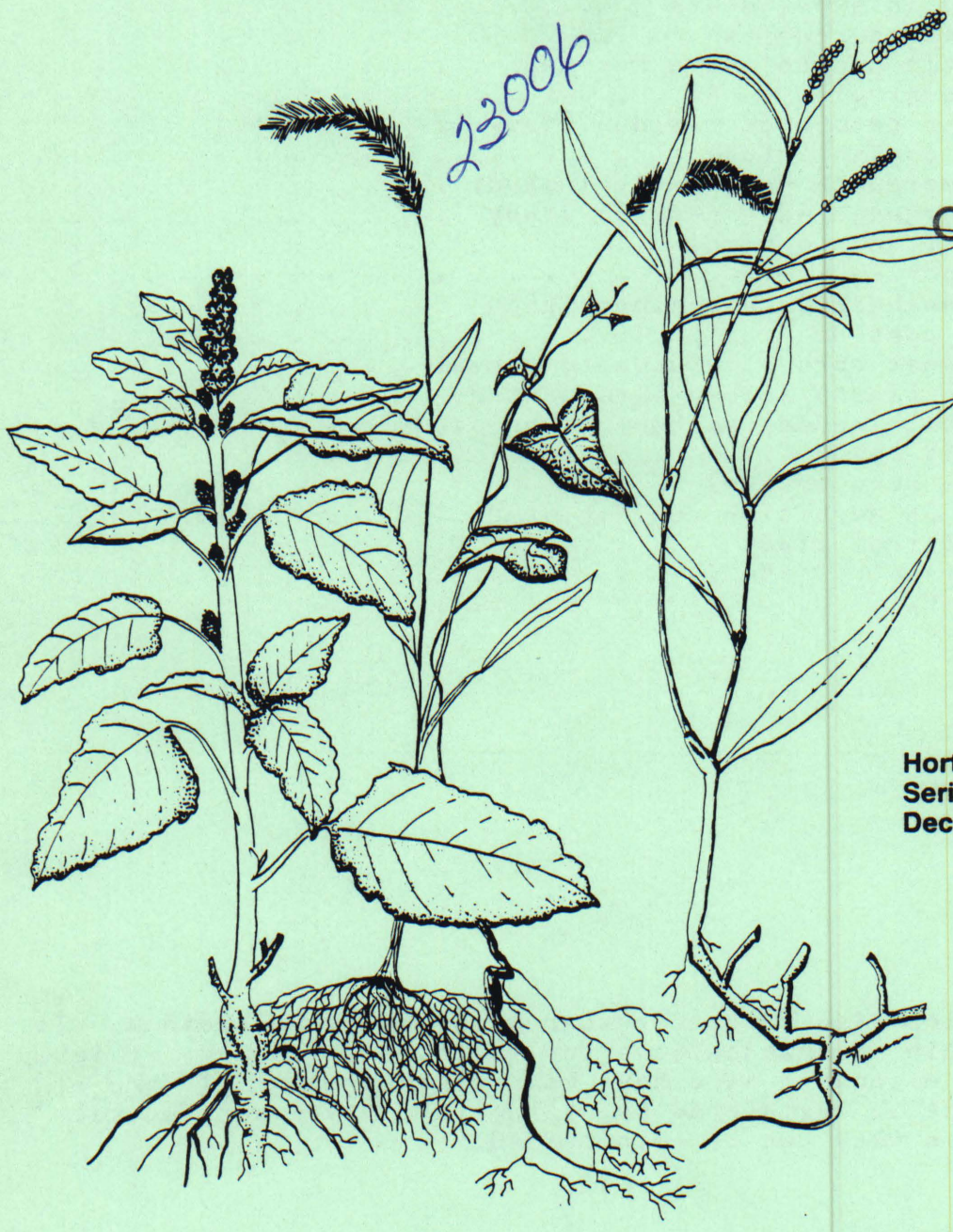

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S. F. GORSKI

The Ohio State University S2
Ohio Agricultural Research and Development Center
Wooster, Ohio

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OH3

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This publication also reports research involving pesticides. It does not contain recommendations for their use, nor does it imply that the uses discussed here have been registered. All uses of pesticides must be registered by appropriate State and Federal agencies before they can be recommended.

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H707 9/88/275

Results of Field Experiments in Vegetable Crops 1989

Dr. Stanley F. Gorski[1]

General Materials and Methods

Abbreviations for herbicide application methods:

PPI	-Preplant incorporated
Pre	-Preemergence to the weed and crop
Del Pre	-Delayed preemergence, just prior to crop emergence
Post	-Postemergence to the weed and crop

Sprayer:
Treatments were applied with a CO_2 backpack type sprayer with a gpa of 29.5. Other volumes used are noted in individual studies.

Weed Ratings:
Weed counts were made by counting the number of weeds in a 1 square foot wire frame. Counts were made approximately 30 days after treatment. All plots were cultivated and hoed regularly after weed counts were taken (except unweeded check).

Injury rating:
Visual rating was done on a percent injury basis with 0 denoting no injury and 100 indicating plant death.

Statistical Analysis:
Fishers LSD at the 5% level was performed on all experiments. Plot design was a Randomized Complete Block (RCB) with 3,4, or 5 reps.

Activated Carbon:
An activated carbon/vermiculite safening system was used on some seeded crops (tomato). 1 lb. activated carbon was mixed with each cubic foot of vermiculite. This mixture was then used to fill the seed furrow. One ft^3 covers approximately 600 ft. of row.

Spray Additives:
Some postemergence applications were with crop oil concentrate (C.O.C.) or a nonionic surfactant (X-77).

Appreciation is given to the following people for their assistance in conducting these research studies:

Mr. Ken Scaife - Farm Superintendent, Columbus
Mr. Richard Hassel - Branch Manager, Celeryville
Mr. Chuck Willer - Branch Manager, Fremont
Ms. Karen Hale - Research Associate

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1989 Rainfall - Muck Crop Branch - Celeryville

DAY	MAY	JUNE	JULY	AUGUST
1	0.05	0.53		0.01
2	0.15	0.16	0.04	
3	0.2	1.21	0.04	
4				1.42
5	0.4	0.11		
6	0.35			
7	0.2		0.09	
8			0.01	
9	0.2	0.15	0.04	
10	0.7		0.01	
11	0.1		0.03	
12	0.05	0.98	0.01	
13	0.5	0.31		
14		0.14		
15		0.09		0.01
16		0.27		
17				
18			0.02	
19		0.06	0.84	0.02
20	0.4		1.13	0.35
21	0.25		0.01	
22				0.02
23	0.6			
24	0.4			0.27
25				
26	1.15			0.01
27		1.39	1.45	
28			0.19	
29				0.21
30	0.05		0.28	
31				
TOTAL	5.75	5.4	4.19	2.32

1989 Rainfall - Lane Avenue Farm - Columbus

DAY	MAY	JUNE	JULY	AUGUST	SEPT
1					
2	0.04	0.15			0.65
3	0.01		0.2		
4	0.14	1.6	0.2		
5	0.35			0.3	
6	0.03			0.85	
7	0.02				
8					
9	0.33				
10	0.14	0.3	0.09		
11	0.03				
12	0.19		0.4		
13	0.11	0.5	0.1		
14		0.7			
15		0.2			1.65
16		0.3			0.75
17					
18					
19			0.5		
20	0.74	0.5	0.11		
21		0.05		0.2	
22		3.9			
23	1.57			1.5	0.4
24			0.25	0.17	
25	1.5				
26	1.13	0.15			
27			1.25		
28		1.8	3.9		
29				1.6	
30					
31			0.4		
TOTAL	6.33	10.15	7.4	4.62	3.45

1989 Rainfall - VEGETABLE CROPS BRANCH - FREMONT

DAY	MAY	JUNE	JULY	AUGUST
1		0.05		
2	0.03			
3		1.02	0.02	
4	0.21			0.69
5	0.06	0.14		
6	0.43			
7		0.24		
8	0.04			
9	0.16	0.11		
10	0.09			
11	0.07		0.02	
12	0.5	0.45	0.01	
13	0.03	0.4		
14		1.03		
15		0.54		0.04
16				
17		0.26		
18				
19	0.31	0.03	0.34	
20	0.07		0.26	0.87
21				
22	0.23			0.04
23	0.55			
24	0.18			
25	1.21		0.06	
26				
27		0.16	0.54	
28				0.11
29				
30	1.46		0.13	
31	0.07			0.55
TOTAL	5.7	4.43	1.38	2.3

Table 1. Chemicals Used in these Studies

Common Name	Trade Name
Acifluorfen	Blazer
Alachlor	Lasso
Atrazine	Aatrex
Bentazon	Basagran
Butylate + R25788	Sutan +
CGA-136872	Beacon
Chloramben	Amiben
Chlorimuron	Classic
Clomazone	Command
Cycloate	Ro-Neet
Diethatyl Ethyl	Antor
EPTC + R25788	Eradicane
Fluazifop	Fusilade 2000
Glyphosate	Roundup
Imazaquin	Scepter
Imazethapyr	Pursuit
Lentagran	Pyridate
Linuron	Lorox
Metolachlor	Dual
Metribuzin	Sencor/Lexone
Oxyfluorfen	Goal
Pronamide	Kerb
Propachlor	Ramrod
Sethoxydim	Poast
Trifluralin	Treflan

Table 2. Weeds Mentioned in Report

bbreviation	Common Name	Scientific Name
BLNS	Black nightshade	Solanum nigrum
CATH	Canada thistle	Cirsium arvense
COLQ	common lambsquarter	Chenopodium album
COPU	common purslane	Portulaca oleracea
CRGR	crabgrass mixture	
FAPA	fall panicum	Panicum dichotomiflorum
GIFT	giant foxtail	Setaria faberii
HAGA	hairy galinsoga	Galinsoga ciliata
LAGA	large crabgrass	Digitaria sanguinalis
LIAM	livid amaranth	Amaranthus lividus
LTSW	ladysthumb smartweed	Polygonum persicaria
RRPW	redroot pigweed	Amaranthus retroflexus
SMPW	smooth pigweed	Amaranthus hybridus
VEMA	Venice mallow	Hibiscus trionum

TITLE: CANADIAN THISTLE CONTROL WITH ROUNDUP

LOCATION: New Holland
PERSONNEL: S. F. Gorski

PLOT INFORMATION

A.) Soil Type: Loam, 3% O.M.
B.) Cultivar:
C.) Date Planted:
D.) Rating Date: June 19, July 6, August 10
E.) Date Harvested:
F.) Plot Size: 5 ft. by 25 ft.
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: June 6
B.) Type: POST
C.) Soil Moisture, Surf: Wet
D.) Weather
Wind (MPH): Calm
Sky Cover: Sunny
Air Temp: 75 F
E.) Growth Stage, Crop:

Weed: Thistle in bud stage and actively growing

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 12.4
PSI: 30
Tips: 8001
Nozzle Spacing: 18 inches
Height: 18 inches

COMMENTS: Two weeks after treatments were applied, improved thistle burndown was noted in plots which received a higher rate of Roundup + ammonium sulfate + crop oil concentrate. All treatments were statistically similar for thistle burndown at four weeks after herbicide application. On July 7, All plots were mowed down so that thistle regrowth could be evaluated.

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CANADIAN THISTLE CONTROL WITH ROUNDUP

Conducted by Dr. Stanley F. Gorski

All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	% THISTLE INJURY	% THISTLE INJURY	REGROWTH % THISTLE INJURY
UNTREATED					0.0	0.0	0.0
ROUNDUP	3.00	EC	0.75	POST	50.0	87.3	88.3
ROUNDUP	3.00	EC	0.75	POST	55.0	87.8	97.8
C.O.C.			0.5				
ROUNDUP	3.00	EC	0.75	POST	58.8	87.8	96.5
C.O.C.			0.5				
NH3SO4			2.0				
ROUNDUP	3.00	EC	0.75	POST	55.0	90.0	96.5
NH3SO4			2.0				
MON-14420	68.0	WP	0.75	POST	67.5	92.0	97.5
MON-14420	68.0	WP	0.75	POST	50.0	83.0	95.5
C.O.C.			0.5				
MON-14420	68.0	WP	0.75	POST	60.0	90.8	98.5
C.O.C.			0.5				
NH3SO4			2.0				
MON-14420	68.0	WP	0.75	POST	66.3	95.5	97.0
NH3SO4			2.0				
MON-20095	94.0	WP	0.75	POST	57.5	89.3	96.5
MON-20095	94.0	WP	0.75	POST	57.5	88.0	94.3
C.O.C.			0.5				
MON-20095	94.0	WP	0.75	POST	63.8	95.5	98.8
C.O.C.			0.5				
NH3SO4			2.0				
MON-20095	94.0	WP	0.75	POST	55.0	89.0	97.8
NH3SO4			2.0				
ROUNDUP	3.00	EC	1.13	POST	62.5	93.5	98.0
C.O.C.			0.5				
NH3SO4			0.2				
ROUNDUP	3.00	EC	1.50	POST	81.3	98.0	98.8
C.O.C.			0.5				
NH3SO4			0.2				
LSD (.05)	=				10.7	11.2	5.6
Standard Dev.	=				7.5198	7.8514	3.9154
CV	=				13.43	9.29	4.35

TITLE: CABBAGE WEED CONTROL

LOCATION: Fremont
PERSONNEL: S.F. Gorski & C. Willer

PLOT INFORMATION

A.)	Soil Type:	Sandy Loam, 3% O.M.
B.)	Cultivar:	Titanic
C.)	Date Planted:	May 16
D.)	Rating Date:	June 2, 22, & July 13
E.)	Date Harvested:	September 27
F.)	Plot Size:	5 ft by 30 ft
G.)	Plot Design:	RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 16	May 16	July 8
B.)	Type:	PPI	Pre	Post
C.)	Soil Moisture, Surf:	Moist	Moist	Dry
D.)	Weather			
	Wind (MPH):	Calm	Calm	2 MPH
	Sky Cover:	Cloudy	Cloudy	Clear
	Air Temp:	65F	65F	85F
E.)	Growth Stage, Crop:	Pre	Pre	Post
	Weed:	Pre	Pre	Post

HERBICIDE APPLICATION EQUIPMENT

Sprayer:	CO2 Backpack
GPA:	29.5
PSI:	30
Tips:	8002
Nozzle Spacing:	18 inches
Height:	18 inches

INCORPORATION EQUIPMENT: Rototiller cutting 1 to 1.5 inches deep

COMMENTS: Due to the extremely wet year we experienced during 1989 the weeds could not be treated at the proper stage of growth. Therefore, the post study is valid for crop phyto only. Cabbage was in the 6 to 8 true leaf stage at the time of treatment.

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CABBAGE WEED CONTROL

Conducted at FREMONT, OHIO by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	% CROP INJURY PRE TRT 6/2/89	% CROP INJURY PRE TRT 6/22/89	% CROP INJURY POST TRT 7/13/89	WEED COUNTS/ RRPW	COUNTS/ COPU	FT2 FAPA	YIELD (lbs)
WEEDY					0.0c	16.7a		4.0a	7.7a	8.0a	183.33a
HAND WEEDED					0.0c	0.0b		0.0c	0.0c	0.0b	169.30a
COMMAND	4.00	EC	0.25	PPI	25.0b	0.0b		0.0c	0.7c	2.3b	194.80a
DEVRINOL	50.0	WP	1.50	PPI							
COMMAND	4.00	EC	0.375	PPI	28.3a	15.0a		0.7bc	0.0c	2.7b	169.77a
DEVRINOL	50.0	WP	1.50	PPI							
DACTHAL	75.0	WP	8.00	PRE	0.0c	0.0b	0.0a	1.3b	2.3b	2.0b	179.87a
STINGER	3.00	EC	0.188	POST							
DACTHAL	75.0	WP	8.00	PRE			0.0a				176.00a
STINGER	3.00	EC	0.188	POST							
LENTAGRAN	45.0	WP	0.45	POST							
DACTHAL	75.0	WP	8.00	PRE			1.7a				148.13a
PURSUIT	2.00	EC	0.032	POST							
DACTHAL	75.0	WP	8.00	PRE			0.0a				178.93a
LENTAGRAN	45.0	WP	0.45	POST							
DACTHAL	75.0	WP	8.00	PRE			0.0a				177.73a
LENTAGRAN	45.0	WP	0.67	POST							
DACTHAL	75.0	WP	8.00	PRE			3.3a				171.63a
LENTAGRAN	45.0	WP	0.90	POST							
DACTHAL	75.0	WP	8.00	PRE			0.0a				185.03a
LENTAGRAN	45.0	WP	0.45	POST							
POAST	1.53	EC	0.20	POST							
LSD (.05)	=				2.4	4.4	4.0	1.0	1.2	3.3	41.79
Standard Dev.	=				1.2909	2.3273	2.2712	.51639	.65828	1.7654	24.362
CV	=				12.10	36.75	317.98	43.03	30.86	58.85	13.85

TITLE: CABBAGE / SOYBEAN HERBICIDE RESIDUE STUDY

LOCATION: Fremont
PERSONNEL: S.F. Gorski & C. Willer

PLOT INFORMATION

A.)	Soil Type:	Sandy Loam, 3% O.M.
B.)	Cultivar:	Titanic
C.)	Date Planted:	May 16
D.)	Rating Date:	June 2, June 22
E.)	Date Harvested:	September 27
F.)	Plot Size:	5 ft. by 25 ft.
G.)	Plot Design:	RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	June 16
B.)	Type:	PPI
C.)	Soil Moisture, Surf:	Moist
D.)	Weather	
	Wind (MPH):	Calm
	Sky Cover:	Cloudy
	Air Temp:	65 F
E.)	Growth Stage, Crop:	Preemergence
	Weed:	Preemergent

HERBICIDE APPLICATION EQUIPMENT

Sprayer:	CO2 Backpack
GPA:	29.5
PSI:	30
Tips:	8002
Nozzle Spacing:	18 inches
Height:	18 inches

INCORPORATION EQUIPMENT: Rototiller cutting 1 to 1.5 inches

COMMENTS: Command was the only herbicide which did not significantly injure the plants or cause a reduction in yield. Classic, at all rates killed the plants. Pursuit and Sceptor, at the low rate, significantly injured the cabbage and caused a reduction in yield. All other rates of Pursuit and Sceptor killed the cabbage.

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CABBAGE -- SOYBEAN RESIDUE STUDY

Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	% CROP INJURY 6/2/89	% CROP INJURY 6/22/89	YIELD (lbs)
WEEDY					0.0d	16.7c	173.60ab
HAND WEEDED					0.0d	0.0d	169.33ab
CLASSIC	25.0	DF	0.004	PPI	90.0ab	99.0a	0.20d
CLASSIC	25.0	DF	0.008	PPI	97.3a	99.0a	0.00d
CLASSIC	25.0	DF	0.016	PPI	97.7a	99.0a	0.00d
PURSUIT	2.00	EC	0.01	PPI	76.7b	61.7b	111.00c
PURSUIT	2.00	EC	0.02	PPI	90.0ab	95.0a	0.32d
PURSUIT	2.00	EC	0.04	PPI	94.3a	99.0a	0.40d
COMMAND	4.00	EC	0.125	PPI	16.7c	15.0c	175.13ab
COMMAND	4.00	EC	0.25	PPI	26.7c	0.0d	189.22a
COMMAND	4.00	EC	0.50	PPI	21.7c	8.3cd	172.47ab
SCEPTOR	1.50	L	0.016	PPI	88.3ab	75.0b	140.72bc
SCEPTOR	1.50	L	0.03	PPI	94.7a	97.7a	0.00d
SCEPTOR	1.50	L	0.06	PPI	96.3a	99.0a	0.57d
LSD (.05)	=				13.3	14.0	31.78
Standard Dev.	=				7.9151	8.3219	18.593
CV	=				12.45	13.48	22.98

TITLE: CUCUMBER WEED CONTROL STUDY

TITLE:

LOCATION: Columbus
PERSONNEL: S. F. Gorski & K. Scaife

PLOT INFORMATION

A.) Soil Type: Brookston Silty Loam, 2% O.M., pH 6.0
B.) Cultivar: Marketmore 76
C.) Date Planted: July 11
D.) Rating Date: August 8
E.) Date Harvested: Multiple
F.) Plot Size: 5 ft. by 25 ft.
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date: July 11
B.) Type: Preplant Incorporated

C.) Soil Moisture, Surf: Dry
D.) Weather
Wind (MPH): Calm
Sky Cover: Sunny
Air Temp: 80 F
E.) Growth Stage, Crop: Preemergence

Weed: Preemergence

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

INCORPORATION EQUIPMENT: Rototiller, cutting 1.5 - 2.0 inches deep

COMMENTS: Command and Amiben alone provided acceptable weed control except for RRPW. Command and Amiben, applied together, provided excellent control of RRPW and all other weeds. No crop phytotoxicity was observed. Amiben appears to have slightly reduced yield.

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CUCUMBER WEED CONTROL STUDY

Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	COUNTS RRPW	YIELD MKT No.	YIELD WT.(lbs)
HAND WEEDED					0.0	77.7	24.50
AMIBEN	75.0	WP	2.70	PPI	4.3	50.7	17.70
COMMAND	4.00	EC	.375	PPI	7.7	76.3	27.57
AMIBEN	75.0	WP	2.70	PPI	0.3	59.0	19.00
COMMAND	4.00	EC	.375	PPI			
COMMAND	4.00	EC	1.00	PPI	4.7	68.0	24.87
LSD (.05)	=				4.3	32.3	10.51
Standard Dev.	=				2.2876	17.159	5.5817
CV	=				67.28	25.87	24.56

TITLE: LETTUCE POSTEMERGENCE WEED CONTROL STUDY

LOCATION: Celeryville
PERSONNEL: S. F. Gorski & R. Hassell

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M., pH 5.3
B.) Cultivar: Tanya Boston
C.) Date Planted: May 9
D.) Rating Date: June 13
E.) Date Harvested: July 12
F.) Plot Size: 5 ft. by 18 ft.
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date:		May 9	June 7
B.) Type:		Pre	Post
C.) Soil Moisture, Surf:		Moist	Moist
D.) Weather			
	Wind (MPH):	4 MPH	Calm
	Sky Cover:	Cloudy	Sunny
	Air Temp:	55 F	85 F
E.) Growth Stage, Crop:		Pre	1 inch
	Weed:	Pre	COPU 1-2 leaf
			LTSW 4-5 leaf
			CRGR 1-2 leaf

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

COMMENTS:

The post herbicide treatments held back all weeds. Ninety percent stunting of the weeds was observed. A 15% stunting pf the lettuce was also noted at the time of rating. However, lettuce yields indicate that the stunting was outgrown.

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LETTUCE POSTEMERGENCE WEED CONTROL STUDY

Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICHARD HASSELL
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	COUNTS COPU	PER RRPW	FT2 LTSW	FT2 CRGR	YIELD 18 HEADS /FTS
AMIBEN	75.0	WP	1.00	PRE	12.0	1.3	0.3	1.3	13.647
AMIBEN	75.0	WP	1.00	PRE	9.3	0.0	3.3	0.7	16.167
PURSUIT	2.00	EC	0.032	POST					
X-77		P	0.25	POST					
AMIBEN	75.0	WP	1.00	PRE	12.3	2.3	1.0	1.0	11.623
PURSUIT	2.00	EC	0.047	POST					
X-77		P	0.25	POST					
AMIBEN	75.0	WP	1.00	PRE	9.7	0.7	2.0	0.3	13.913
PURSUIT	2.00	EC	0.032	POST					
AMIBEN	75.0	WP	1.00	PRE	7.3	0.0	0.7	2.3	11.603
PURSUIT	2.00	EC	0.047	POST					
LSD (.05)	=				6.5	1.6	3.9	3.0	4.661
Standard Dev.	=				3.4448	.82663	2.0816	1.5705	2.4754
CV	=				33.99	95.38	141.93	138.58	18.49

TITLE: LETTUCE PREEMERGENCE WEED CONTROL STUDY

LOCATION: CELERYVILLE
PERSONNEL: S. F. Gorski & R. Hassell

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M., pH 5.3
B.) Cultivar: Tanya Boston
C.) Date Planted: May 9
D.) Rating Date: June 7
E.) Date Harvested: July 12
F.) Plot Size: 5 ft. by 18 ft.
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: May 9
B.) Type: Pre
C.) Soil Moisture, Surf: Moist
D.) Weather
Wind (MPH): 4 MPH
Sky Cover: Cloudy
Air Temp: 55 F
E.) Growth Stage, Crop: Pre

Weed: Pre

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

COMMENTS: No lettuce injury was observed.

Ohio State Univ. Dept. Horticulture

LETTUCE PREEMERGENCE WEED CONTROL STUDY

Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICHARD HASSELL
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	COUNTS COPU	PER RRPW	FT2 LTSW	CRGR	YIELD 18 HEADS /15 FT
WEEDY					12.7	0.3	1.3	2.0	13.380
HAND WEEDED					0.0	0.0	0.0	0.0	12.110
AMIBEN	75.0	WP	1.00	PRE	7.0	0.3	1.3	0.7	13.647
PURSUIT	2.00	EC	0.032	PRE	13.3	0.0	0.3	1.7	14.037
PURSUIT	2.00	EC	0.047	PRE	9.3	0.0	2.0	0.7	10.087
LSD (.05)	=				7.5	0.7	0.8	1.2	2.830
Standard Dev.	=				3.9979	.38729	.44721	.63245	1.5031
CV	=				47.22	290.47	44.72	63.25	11.88

TITLE: LETTUCE / PURSUIT WEED CONTROL

LOCATION: CELERYVILLE
PERSONNEL: S. F. GORSKI & R. HASSELL

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M., pH 5.3
B.) Cultivar:
Slo Bolt: leaf lettuce, Valmaine: romaine, Salad King: endive
C.) Date Planted: June 22
D.) Rating Date: July 13
E.) Date Harvested: August 22
F.) Plot Size: 5 ft. by 18 ft.
G.) Plot Design: RCB with 5 reps

HERBICIDE APPLICATION DATA

A.) Date: July
B.) Type: Post
C.) Soil Moisture, Surf: Dry
D.) Weather
Wind (MPH): Calm
Sky Cover: Sunny
Air Temp: 90 F
E.) Growth Stage, Crop: Post

Weed: COPU 2-4 leaf

LIAM 2-4 leaf

FAPA 2 leaf

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

COMMENTS: Pursuit, alone, stunted weeds by 30% However, the weeds were still bright green and actively growing. Crop injury was not observed. X-77 applied wiht Pursuit increased weed and crop injury. Weeds were stunted 50-90% and a dull green color with no signs of active growth. Crop injury, in the form stunting, was noted with the high rates of Pursuit and X-77. However, the plants had outgrown the stunting by harvest.

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PURSUIT/LETTUCE WEED CONTROL

Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICHARD HASSELL
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	COUNTS COPU	PER LIAM	FT2 FAPA	% CROP INJURY	YIELD LBS. / 12 HEADS LEAF	ENDIVE	ROMAINE
CONTROL					5.8	1.0	0.6	0.0	9.12	19.58	11.96
PURSUIT	2.00	EC	0.024	POST	2.6	0.6	0.4	0.0	8.66	18.44	11.00
PURSUIT	2.00	EC	0.032	POST	1.8	0.8	0.2	0.0	12.24	21.44	11.98
PURSUIT	2.00	EC	0.064	POST	2.4	0.2	0.2	0.0	11.56	21.10	13.28
PURSUIT	2.00	EC	0.094	POST	2.0	0.4	0.0	0.0	11.06	20.74	13.16
PURSUIT X-77	2.00	EC P	0.024 0.25	POST	3.2	1.2	1.2	0.0	8.84	17.37	10.32
PURSUIT X-77	2.00	EC P	0.032 0.25	POST	1.6	0.4	0.2	0.0	11.56	20.62	11.44
PURSUIT X-77	2.00	EC P	0.064 0.25	POST	1.0	0.0	0.0	0.0	8.70	16.80	7.26
PURSUIT X-77	2.00	EC P	0.094 0.25	POST	0.2	0.4	0.0	6.0	9.78	17.92	11.78
LSD (.05)	=				2.7	0.9	0.7	2.4	4.48	5.29	5.80
Standard Dev.	=				2.1278	.73314	.51234	1.8257	3.4682	4.0965	4.4936
CV	=				92.96	131.97	164.68	273.86	34.11	21.19	39.58

TITLE: LETTUCE / PURSUIT WEED CONTROL

LOCATION: CELERYVILLE
PERSONNEL: S.F. GORSKI & R. HASSELL

PLOT INFORMATION

A.) Soil Type: Carlisle Muck, 75% O.M., pH 5.3
B.) Cultivar:
Slo Bolt: leaf lettuce, Valmaine: romaine, Salad King: endive
C.) Date Planted: July 26
D.) Rating Date: August 17
E.) Date Harvested: September 18
F.) Plot Size: 5 ft. by 18 ft.
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date: August 18
B.) Type: Post
C.) Soil Moisture, Surf: Moist
D.) Weather
Wind (MPH): Calm
Sky Cover: Sunny
Air Temp: 80 F
E.) Growth Stage, Crop: 2-4 leaf

Weed: COPU 2-4 leaf

LIAM 2-4 leaf

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

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LETTUCE TOLERANCE TO PURSUIT

Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICHARD HASSELL
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	YIELD LBS. PER 12 HEADS LEAF	ENDIVE	ROMAINE
CONTROL					13.667	11.20	13.70
PURSUIT	2.00	EC	0.024	POST	10.900	12.17	11.43
PURSUIT	2.00	EC	0.032	POST	11.833	10.83	13.13
PURSUIT	2.00	EC	0.064	POST	11.600	13.53	11.03
PURSUIT	2.00	EC	0.094	POST	9.767	13.57	9.73
PURSUIT	2.00	EC	0.024	POST	10.633	12.27	11.13
X-77		P	0.25				
PURSUIT	2.00	EC	0.032	POST	11.080	15.03	11.63
X-77		P	0.25				
PURSUIT	2.00	EC	0.064	POST	12.667	16.00	12.63
X-77		P	0.25				
PURSUIT	2.00	EC	0.094	POST	12.000	15.17	11.93
X-77		P	0.25				
LSD (.05)	=				4.652	5.53	4.08
Standard Dev.	=				2.6875	3.1943	2.359
CV	=				23.23	24.00	19.96

TITLE: ONION WEED CONTROL STUDY

LOCATION: Celeryville
PERSONNEL: S.F. Gorski & C. Willer

PLOT INFORMATION

A.)	Soil Type:	Carlisle Muck, 75% O.M., pH 5.3
B.)	Cultivar:	Spartan Banner 80
C.)	Date Planted:	May 9
D.)	Rating Date:	June 2, 13, July 7
E.)	Date Harvested:	October 2
F.)	Plot Size:	5 ft. by 18 ft.
G.)	Plot Design:	RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 9	June 28
B.)	Type:	Pre	Post
C.)	Soil Moisture, Surf:	Moist	Wet
D.)	Weather		
	Wind (MPH):	4 MPH	5MPH
	Sky Cover:	Cloudy	Partly Cloudy
	Air Temp:	55 F	80 F
E.)	Growth Stage, Crop:	Pre	5 leaf
	Weed:	Pre	COPU 1-4 "

HERBICIDE APPLICATION EQUIPMENT

Sprayer:	CO2 Backpack
GPA:	29.5
PSI:	30
Tips:	8002
Nozzle Spacing:	18 inches
Height:	18 inches

INCORPORATION EQUIPMENT:

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ONION WEED CONTROL

Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICHARD HASSELL
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	6/13/89 WEED COUNTS/ COPU	LTSW	CRGR	7/7/89 FT2 COPU	FAPA	% CROP INJURY	10/2/89 NO. ONIONS	YIELD (lbs)
WEEDY					13.3a	1.8abc	0.0a	2.5ab	1.5a	0.0d	52.0a	14.75a
HAND WEEDED					0.0c	0.0c	0.0a	0.0d	0.0c	0.0d	67.0a	16.80a
PROWL	4.00	EC	2.00	PRE	8.0ab	2.8a	0.5a	0.3cd	0.0c	5.0bc	44.3a	13.73a
PROWL	4.00	EC	2.00	POST								
PROWL	4.00	EC	2.00	PRE				0.3cd	0.0c	5.0bc	64.0a	17.00a
GOAL	1.60	EC	0.12	POST								
POAST	1.53	EC	0.20	POST								
RAMROD	4.00	F	4.00	PRE	7.5b	1.3abc	0.8a	0.8cd	0.0c	7.5ab	63.3a	18.50a
BASAGRAN	4.00	EC	0.50	POST								
C.O.C.			1.00	POST								
RAMROD	4.00	F	4.00	PRE				0.8cd	0.0c	8.8ab	36.8a	12.02a
Basagran	4.00	EC	0.75	POST								
C.O.C.			1.00	POST								
CGA 144155	3.33	L	4.00	PRE	11.0ab	1.3abc	0.3a				48.8a	14.60a
CGA 144155	3.33	L	6.00	PRE	6.3b	0.5bc	0.3a				60.3a	19.47a
CGA 144155	3.33	L	8.00	PRE	7.0b	1.5abc	0.0a				43.8a	13.48a
DUAL	8.00	EC	4.00	PRE	8.5ab	2.0ab	0.5a				44.0a	15.45a
RAMROD	4.00	F	4.00	PRE				3.3a	0.0c	2.5cd	46.3a	15.77a
LENTAGRAN	45.0	WP	0.45	POST								
RAMROD	4.00	F	4.00	PRE				3.3a	0.8b	5.0bc	54.8a	12.25a
LENTAGRAN	45.0	WP	0.67	POST								
RAMROD	4.00	F	4.00	PRE				1.5bc	0.3bc	10.0a	72.5a	16.27a
LENTAGRAN	45.0	WP	0.90	POST								
RAMROD	4.00	F	4.00	PRE				2.3ab	0.5bc	2.5cd	66.0a	17.70a
LENTAGRAN	45.0	WP	0.45	POST								
POAST	1.53	EC	0.20	POST								
RAMROD	4.00	F	4.00	PRE				0.5cd	0.3bc	6.3abc	66.8a	16.83a
DUAL	8.00	EC	2.00	POST								
LSD (.05)	=				5.0	1.7	0.7	1.2	0.5	3.8	32.1	6.51
Standard Dev.	=				3.3973	1.1495	.50738	.85634	.35675	2.6471	22.461	4.5556
CV	=				44.19	83.60	180.40	61.77	120.75	55.46	40.58	29.13

TITLE: PICKLES / SOYBEAN HERBICIDE RESIDUE STUDY

LOCATION: Fremont
PERSONNEL: S.F. Gorski & C. Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Cultivar: Calypso
C.) Date Planted: June 22
D.) Rating Date: August 1
E.) Date Harvested: Multiple
F.) Plot Size: 5 ft. by 25 ft.
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date: June 22
B.) Type: PPI
C.) Soil Moisture, Surf: Moist
D.) Weather
Wind (MPH): Calm
Sky Cover: Overcast
Air Temp: 85 F
E.) Growth Stage, Crop: Preplant

Weed: Preemergence

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

INCORPORATION EQUIPMENT: Rototiller, cutting 1-2 inches deep

COMMENTS: All plant injury appeared as stunting. Sceptor, at all rates, severely injured plants and adversely affected yields.

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PICKLES -- SOYBEAN RESIDUE STUDY

Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	% CROP INJURY	YIELD LBS.
WEEDY					0.0	34.40
HAND WEEDED					0.0	39.07
CLASSIC	25.0	DF	0.004	PPI	43.3	29.47
CLASSIC	25.0	DF	0.008	PPI	33.3	34.87
CLASSIC	25.0	DF	0.016	PPI	26.7	36.63
PURSUIT	2.00	EC	0.01	PPI	3.3	34.53
PURSUIT	2.00	EC	0.02	PPI	30.0	32.37
PURSUIT	2.00	EC	0.04	PPI	46.7	32.53
COMMAND	4.00	EC	0.125	PPI	26.7	40.07
COMMAND	4.00	EC	0.25	PPI	13.3	47.47
COMMAND	4.00	EC	0.50	PPI	6.7	45.53
SCEPTOR	1.50	L	0.016	PPI	53.3	23.13
SCEPTOR	1.50	L	0.03	PPI	56.7	25.37
SCEPTOR	1.50	L	0.06	PPI	66.7	12.77
LSD (.05)	=				28.1	17.71
Standard Dev.	=				16.756	10.548
CV	=				57.69	31.54

TITLE: RED BEET WEED CONTROL

LOCATION: Columbus
PERSONNEL: S. F. Gorski & K. Scaife

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M., pH 6.0
B.) Cultivar: Warrior
C.) Date Planted: May 30
D.) Rating Date: June 26
E.) Date Harvested: July 25
F.) Plot Size: 5 ft. by 25 ft.
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date:	May 30	May30
B.) Type:	PRE	PPI
C.) Soil Moisture, Surf:	Moist	Moist
D.) Weather		
Wind (MPH):	5 MPH	5 MPH
Sky Cover:	Sunny	Sunny
Air Temp:	80 F	80 F
E.) Growth Stage, Crop:	PRE	PRE
Weed:	PRE	PRE

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

INCORPORATION EQUIPMENT: Rototiller, cutting 3 inches

COMMENTS: Crop injury and poor crop stand may have been accenuated by the large amount of rain received this growing season. Harvests indicate no yield reductions.

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RED BEET WEED CONTROL

Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	% CROP INJURY	COUNTS COPU	PER RRPW	FT2 CRGR	COLQ	YIELD LBS/10FT
WEEDY					0.0	2.8	4.3	0.5	1.8	6.88
HAND WEEDED					0.0	0.0	0.0	0.0	0.0	7.95
ANTOR	4.00	EC	3.00	PRE	30.0	0.3	0.0	0.0	0.3	8.77
ANTOR	4.00	EC	5.00	PRE	37.5	0.0	0.0	0.0	0.0	10.25
RO-NEET	6.00	EC	3.00	PPI	17.5	3.3	2.5	0.5	2.0	9.27
RO-NEET	6.00	EC	4.00	PPI	21.3	0.5	0.0	0.0	0.5	8.85
CGA 144155	3.33	EC	2.00	PRE	47.5	2.5	0.8	0.0	0.5	9.27
LSD (.05)	=				28.2	3.3	2.8	0.8	2.5	2.69
Standard Dev.	=				18.989	2.22	1.8612	.54916	1.6961	1.814
CV	=				86.46	168.00	173.72	384.42	237.46	20.73

TITLE: SUPER SWEET SWEET CORN
TOLERANCE TO ACCENT

LOCATION: Columbus
PERSONNEL: S. F. Gorski & K. Scaife

PLOT INFORMATION

A.) Soil Type: Brookston Silty Loam, 2% O.M., pH 6.0
B.) Cultivar: See Next Page
C.) Date Planted: July 11
D.) Rating Date: August 30
E.) Date Harvested: No Harvest
F.) Plot Size: 5 ft. by 10 ft.
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date: August 10
B.) Type: Post
C.) Soil Moisture, Surf: Dry
D.) Weather
Wind (MPH): Calm
Sky Cover: Sunny
Air Temp: 85 F
E.) Growth Stage, Crop: 6-8 leaf stage and actively growing

Weed: No Weeds Present

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

COMMENTS: This was a crop phytotoxicity study. The corn showed no visible damage due to the application of Accent. Yields could not be taken due to the number of different corn cultivars present.

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SUPER SWEET SWEET CORN CULTIVAR TOLERANCE TO ACCENT

Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE
UNTREATED				
ACCENT	75.0	DF	.0313	POST
ACCENT	75.0	DF	0.063	POST
ACCENT	75.0	DF	0.125	POST

VARIETIES:
A. Silverado, se
B. Silverette, se
C. 2717 D'Artagnon, se
D. 2627 Incredible, se
E. Super Sweet Jubilee, se
F. Topnotch, sh2
G. 2757 Viceroy, sh2
H. 2680 How Sweet It Is, sh2
I. Zenith, sh2
J. Pinnacle, sh2

TITLE: TOMATOES / AMIBEN - CARBON STUDY

LOCATION: Columbus
PERSONNEL: S.F. Gorski & K. Scaife

PLOT INFORMATION

A.) Soil Type: Brookston Silty Loam, 2% O.M., pH 6.0
B.) Cultivar: OH 7880
C.) Date Planted: May 30
D.) Rating Date: June 26
E.) Date Harvested: September 8
F.) Plot Size: 5 ft. by 25 ft.
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date:	May 30	June 26
B.) Type:	PPI	Post
C.) Soil Moisture, Surf:	Moist	Moist
D.) Weather		
Wind (MPH):	5 MPH	Calm
Sky Cover:	Sunny	Sunny
Air Temp:	80 F	90 F
E.) Growth Stage, Crop:	Transplant	14-18"
Weed:	Pre	Post

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

INCORPORATION EQUIPMENT: Rototiller, cutting 1-1 1/2" deep

COMMENTS: Weed control was excellent in all treatments. No visible phyto was observed. However, yields were significantly reduced.

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TOMATOES/AMIBEN-CARBON STUDY

TRANSPLANT

Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	% CROP INJURY	YIELD lbs/25ft
WEEDY					0.0	113.00
HAND WEEDED					0.0	120.47
AMIBEN	75.0	WP	2.70	PPI	0.0	50.25
AMIBEN +BARE ROOT	10.0	G	2.00	POST		
AMIBEN	75.0	WP	2.70	PPI	0.0	81.83
AMIBEN +CARB TO H2O +BARE ROOT	10.0	G	2.00	POST		
AMIBEN	75.0	WP	2.70	PPI	6.7	67.20
AMIBEN +CARB TO H2O SPEEDLINGS	10.0	G	2.00	POST		
LSD (.05)	=				4.9	42.26
Standard Dev.	=				2.5819	21.886
CV	=				193.65	25.29

TITLE: TOMATOES / AMIBEN - CARBON STUDY

LOCATION: Columbus
PERSONNEL: S.F. Gorski & K. Scaife

PLOT INFORMATION

A.) Soil Type: Brookston Silty Loam, 2% O.M.,pH 6.0
B.) Cultivar: OH 7880
C.) Date Planted: May 30
D.) Rating Date: June 26
E.) Date Harvested: September 8
F.) Plot Size: 5 ft. by 25 ft.
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.)	Date:	May 30	June 26
B.)	Type:	PPI	Post
C.)	Soil Moisture, Surf:	Moist	Moist
D.)	Weather		
	Wind (MPH):	5 MPH	Calm
	Sky Cover:	Sunny	Sunny
	Air Temp:	80 F	90 F
E.)	Growth Stage, Crop:	Pre	Post
	Weed:	Pre	Post

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

INCORPORATION EQUIPMENT: Rototiller, cutting 1 - 1 1/2 inches deep

COMMENTS: Weed control was excellent. Early stunting, observed in plots treated with only Amiben, was outgrown by harvest. Yields were similar.

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TOMATOES/AMIBEN-CARBON STUDY

FIELD SEEDED

Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	% CROP INJURY	COUNTS PER FT2 COPU	COPW	RRPW	COLQ	YIELD lbs/25ft
WEEDY					0.0	6.7	0.3	3.0	5.3	113.00
HAND WEEDED					0.0	2.7	0.7	1.7	1.7	120.33
AMIBEN	75.0	WP	2.70	PPI	43.3	0.3	0.7	0.0	0.0	105.50
AMIBEN	10.0	G	2.00	POST						
AMIBEN	75.0	WP	2.70	PPI	6.7	0.3	0.0	0.0	0.0	128.83
AMIBEN	10.0	G	2.00	POST						
CARB T BAND										
AMIBEN	75.0	WP	2.70	PPI	3.3	0.0	0.0	0.0	0.0	117.17
AMIBEN	10.0	G	2.00	POST						
CARB/VERMIC										
LSD (.05)	=				12.4	4.4	1.2	2.1	3.4	49.10
Standard Dev.	=				6.5828	2.3416	.61913	1.103	1.8073	26.079
CV	=				61.71	117.08	185.74	118.18	129.10	22.30

TITLE: TOMATO / PGR IV

LOCATION: Fremont
PERSONNEL: S.F. Gorski

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Cultivar: Heinz 1810
C.) Date Planted: June 7
D.) Rating Date: July 8, July 13
E.) Date Harvested: September 13
F.) Plot Size: 5 ft. by 30 ft.
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date:	June 28	August 1
B.) Type:	Post	Post
C.) Soil Moisture, Surf:	Moist	Dry
D.) Weather		
Wind (MPH):	Calm	5 MPH
Sky Cover:	Sunny	Sunny
Air Temp:	85 F	80 F
E.) Growth Stage, Crop:	Bud Stage	Post
Weed:		

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

COMMENTS: Entire field was treated, PPI, with Treflan 1.0 lbs/A + Sencor 0.25 lbs/A. No visible phytotoxicity or growth promotive effects were observed. However, yields were higher for plots sprayed with Crop Booster and Crop Booster + PGR IV.

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TOMATO -- PGR IV

Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	YIELD MKT(lbs)
UNTREATED					149.17
CROP BOOSTER	4.00	EC	2.00	POST1	197.67
CROP BOOSTER	4.00	EC	2.00	POST2	
CROP BOOSTER	4.00	EC	2.00	POST1	201.50
PGR IV	64.0	EC	1.00	POST1	
CROP BOOSTER	4.00	EC	2.00	POST2	
PGR IV	64.0	EC	3.00	POST2	
CROP BOOSTER	4.00	EC	2.00	POST1	177.00
PG 58	64.0	EC	1.00	POST1	
CROP BOOSTER	4.00	EC	2.00	POST2	
PG 58	64.0	EC	3.00	POST2	
LSD (.05)	=				44.98
Standard Dev.	=				22.513
CV	=				12.42

TITLE: TOMATO / POAST WEED CONTROL STUDY

LOCATION: Fremont
PERSONNEL: S.F. Gorski & C. Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Cultivar: Heinz 1810
C.) Date Planted: June 7
D.) Rating Date: July 13
E.) Date Harvested: September 12
F.) Plot Size: 5 ft. by 30 ft.
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.)	Date:	June 7	July 3
B.)	Type:	PPI	Post
C.)	Soil Moisture, Surf:	Moist	Dry
D.)	Weather		
	Wind (MPH):	Calm	2 MPH
	Sky Cover:	Sunny	Sunny
	Air Temp:	85 F	85 F
E.)	Growth Stage, Crop:	Preplant	12-16"
	Weed:	Pre	1-2"

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

INCORPORATION EQUIPMENT: Rototiller, cutting 1-2 inches deep

COMMENTS: Entire field was treated, PPI, with Treflan 1.0 lbs/A + Sencor 0.25 lbs/A. All treatments provided excellent weed control with no injury to the tomato plants.

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TOMATO /POAST

Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	WEED FAPA	COUNTS COPU	PER RRPW	FT2 COLQ	% CROP INJURY	YIELD MKT(lbs)
WEEDY					1.5	2.5	1.8	1.0	0.0	79.54
HAND WEEDED					0.0	0.0	0.0	0.0	0.0	140.25
SENCOR	75.0	DF	0.25	POST	0.0	0.0	0.0	0.0	0.0	164.88
C.O.C.			1.00							
POAST	1.53	EC	0.20	POST	0.0	2.0	1.0	0.8	0.0	174.00
C.O.C.			1.00							
POAST	1.53	EC	0.20	POST	0.0	0.0	0.0	0.0	0.0	185.50
SENCOR	75.0	DF	0.25							
C.O.C.			1.00							
POAST PLUS	1.00	EC	0.20	POST	0.0	0.0	0.0	0.0	0.0	177.25
SENCOR	75.0	DF	0.25							
LSD (.05)	=				0.4	0.9	0.3	0.7	0	26.82
Standard Dev.	=				.2357	.60553	.20412	.46844	0	17.68
CV	=				94.28	80.74	44.54	160.61	0	11.51

TITLE: TOMATO / SOYBEAN HERBICIDE RESIDUE STUDY

LOCATION: Fremont
PERSONNEL: S.F. Gorski & C. Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Cultivar: Heinz 1810
C.) Date Planted: June 7
D.) Rating Date: July 13
E.) Date Harvested: September 13
F.) Plot Size: 5 ft. by 30 ft.
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: June 22
B.) Type: PPI
C.) Soil Moisture, Surf: Moist
D.) Weather
Wind (MPH): Calm
Sky Cover: Sunny
Air Temp: 85 F
E.) Growth Stage, Crop: Preplant

Weed: Preemergence

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

INCORPORATION EQUIPMENT: Rototiller, cutting 1-2 inches deep

COMMENTS: Early Plant Injury. Plant injury due to Pursuit appeared as leaf necrosis, leaf drop, and little or no new growth. Command injury appeared as slight to moderate chlorosis. Sceptor badly stunted leaves and very little new growth was observed. Due to the application of improper Classic rates, no plant injury from Classic was observed.
Early plant injury was outgrown and yields were statistically similar.

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TOMATO -- SOYBEAN RESIDUE STUDY

Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	% CROP INJURY	YIELD MKT(lbs)
HAND WEEDED					0.0	140.25
CLASSIC	25.0	DF	.00013	PPI	0.0	189.63
CLASSIC	25.0	DF	.00026	PPI	0.0	211.63
CLASSIC	25.0	DF	.00053	PPI	0.0	166.50
PURSUIT	2.00	EC	0.01	PPI	50.0	128.13
PURSUIT	2.00	EC	0.02	PPI	57.5	142.00
PURSUIT	2.00	EC	0.04	PPI	78.8	85.63
COMMAND	4.00	EC	0.125	PPI	0.0	200.75
COMMAND	4.00	EC	0.25	PPI	0.0	190.75
COMMAND	4.00	EC	0.50	PPI	2.5	170.13
SCEPTOR	1.50	L	0.016	PPI	21.3	159.25
SCEPTOR	1.50	L	0.03	PPI	38.8	151.75
SCEPTOR	1.50	L	0.06	PPI	52.5	123.00
LSD (.05)	=				18.4	70.33
Standard Dev.	=				12.725	48.706
CV	=				54.92	30.75

TITLE: TOMATO WEED CONTROL STUDY

LOCATION: Fremont
PERSONNEL: S.F. Gorski & C. Willer

PLOT INFORMATION

A.) Soil Type: Sandy Loam, 3% O.M.
B.) Cultivar: Heinz 1810
C.) Date Planted: June 7
D.) Rating Date: June 22, July 8, July 13, August 1
E.) Date Harvested: September 12
F.) Plot Size: 5 ft. by 30 ft.
G.) Plot Design: RCB with 4 reps

HERBICIDE APPLICATION DATA

A.) Date: June 7
B.) Type: PPI
C.) Soil Moisture, Surf: Moist
D.) Weather
Wind (MPH): Calm
Sky Cover: Sunny
Air Temp: 85 F
E.) Growth Stage, Crop: Preplant

Weed: Preemergence

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

INCORPORATION EQUIPMENT: Rototiller, cutting 1-2 inches deep

COMMENTS: Injury from Command was in the form of interveinal chlorosis. Approximately 50% of the tomato foliage was yellowed. However, the plants outgrew the injury and yields were not adversely affected. Weed control in all plots was excellent.

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TOMATO WEED CONTROL

Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	YIELD MKT(lbs)
WEEDY					79.35
HAND WEEDED					140.25
TREFLAN	4.00	EC	1.00	PPI	131.38
COMMAND	4.00	EC	.375	PPI	
TREFLAN	4.00	EC	1.00	PPI	153.75
COMMAND	4.00	EC	.625	PPI	
TREFLAN	4.00	EC	1.00	PPI	172.75
COMMAND	4.00	EC	.375	PPI	
SENCOR	75.0	DF	.250	PPI	
DEVRINOL	50.0	WP	2.00	PPI	113.38
COMMAND	4.00	EC	.375	PPI	
DEVRINOL	50.0	WP	2.00	PPI	126.63
COMMAND	4.00	EC	.625	PPI	
LSD (.05)	=				34.98
Standard Dev.	=				23.447
CV	=				17.89

TITLE: ZUCCHINI WEED CONTROL STUDY

LOCATION: Columbus
PERSONNEL: S. F. Gorski & K. Scaife

PLOT INFORMATION

A.) Soil Type: Brookston Silty Clay Loam, 2% O.M., pH 6.0
B.) Cultivar: Elite
C.) Date Planted: July 11
D.) Rating Date:
E.) Date Harvested: Multiple
F.) Plot Size: 5 ft. by 25 ft.
G.) Plot Design: RCB with 3 reps

HERBICIDE APPLICATION DATA

A.) Date: July 11
B.) Type: Preplant Incorporated

C.) Soil Moisture, Surf: Dry
D.) Weather
Wind (MPH): Calm
Sky Cover: Sunny
Air Temp: 80 F
E.) Growth Stage, Crop: Preemergence

Weed: Preemergence

HERBICIDE APPLICATION EQUIPMENT

Sprayer: CO2 Backpack
GPA: 29.5
PSI: 30
Tips: 8002
Nozzle Spacing: 18 inches
Height: 18 inches

INCORPORATION EQUIPMENT: Rototiller, cutting 1.5 - 2.0 inches deep

COMMENTS: Command and Amiben alone provided acceptable weed control except for RRPW. Command and Amiben, applied together, provided excellent control of RRPW and all other weeds. Crop phytotoxicity was not observed and yields were acceptable and similar. Please see cucumber weed control table for weed data.

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ZUCCHINI WEED CONTROL STUDY

Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	YIELD MKT No.	YIELD WT.(lbs)
HAND WEEDED					55.7	28.60
AMIBEN	75.0	WP	2.70	PPI	60.3	29.57
COMMAND	4.00	EC	.375	PPI	69.3	35.73
AMIBEN	75.0	WP	2.70	PPI	61.0	32.83
COMMAND	4.00	EC	.375	PPI		
COMMAND	4.00	EC	1.00	PPI	64.3	31.80
LSD (.05)	=				21.2	12.33
Standard Dev.	=				11.234	6.5468
CV	=				18.08	20.65

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